Republic of Kenya

EDICT OF GOVERNMENT

In order to promote public education and public safety, equal justice for all, a better informed citizenry, the rule of law, world trade and world peace, this legal document is hereby made available on a noncommercial basis, as it is the right of all humans to know and speak the laws that govern them.

KS 2428 (2012) (English): Good Agricultural and Collection Practices – Guidelines for the cultivation and collection of herbal medicines (Draft Standard)

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KENYA STANDARD

Good Agricultural and Collection Practices – Guidelines for the cultivation and collection of herbal medicines

20.99

First Edition 2012

TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

Kenya Agricultural Research Institute - KARI
GlaxoSmithKline
Government Chemist
Kenyatta University
Kenya Medical Research Institute - KEMRI
Consumer Information Network
Kenya Revenue Authority - KRA
Kenya Forestry Research Institute - KEFRI
National Museums of Kenya – NMK
The School of Alternative Medicine and Technology - SAMTECH
National Traditional Health Practitioners Association - NATHEPA
Kenya Bureau of Standards — Secretariat

REVISION OF KENYA STANDARDS

In order to keep abreast of progress in industry, Kenya Standards shall be regularly reviewed. Suggestions for improvements to published standards, addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

KENYA STANDARD

Good Agricultural and Collection Practices – Guidelines for the cultivation and collection of herbal medicines

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NATIONAL FOREWORD

This Kenya Standard was prepared by the Pharmaceutical and Alternative Medicine Technical Committee under the guidance of the Standards Projects Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards.

During the preparation of this standard, reference was made to the following document:

World Health Organization. 2003. WHO guidelines on good agricultural and collection practices (GACP) for medicinal plants.

National Medicinal Plants Board Department of AYUSH, Ministry of Health and Family Welfare Govt. of India. 2009. Guidelines On Good Field Collection Practices For Indian Medicinal Plants. Sun Offset, New Delhi

EUROPAM, the European Herb Growers Association, GACP – Subcommittee. 2006 Guidelines for Good Agricultural and Wild Collection Practice (GACP) of Medicinal and Aromatic Plants. EUROPAM GACP Working Copy no. 7.3 Brussels, 3rd April

Acknowledgement is hereby made for the assistance derived from these sources.

Good Agricultural and Collection Practices – Guidelines for the cultivation and collection of herbal medicinal plants

1 SCOPE

This Kenya standard is a guideline for on- production processes resulting in safe and best possible quality medicinal plant materials.

It describes general principles and provides technical details for the cultivation and collection of medicinal plants.

This standard does not cover genetically modified medicinal plants.

1.1 Purpose

This standard aims to produce medicinal plant materials that are safe, effective and of good quality.

2 NORMATIVE REFERENCE

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

KS 2353: 2011 – Handling of herbal medicine – Code of Hygiene

3 DEFINITIONS

3.1

Good Agricultural Practice

A collection of principles to apply for on-farm production and post-production processes, resulting in safe and healthy food and non-food agricultural products, while taking into account economical, social and environmental sustainability

3.2

Genetically modified medicinal plants

It refers to any plant in which genetic engineering techniques have been used to introduce, remove, or modify specific parts of its genome.

3.3

Collection of medicinal plants

It implies both collection and harvesting of herbal materials

4 REQUIREMENTS

4.1

Agronomic and site selection

Medicinal Plant materials derived from same species can show significant differences in quality when cultivated at different sites owing to the influences of soil, climate and other factors.
The differences may relate to physical appearances or to variation in their constituents, the biosynthesis of which may be affected by extrinsic environmental conditions, including ecological and geographical variables and shall be taken into considerations.

Risk of contamination as a result of the soil, air or water by hazardous chemicals shall be avoided. Impact of past land uses on cultivation site including the planting of previous crops or application of plant protection products shall be evaluated.

4.2

Cultivation

Cultivation of medicinal plants requires intensive care and management.

If no scientific published or documented cultivation data are available, traditional methods of cultivation shall be followed, where feasible. Otherwise a method shall be developed through research.

The principles of good plant husbandry, including appropriate rotation of plants selected according to environmental suitability, shall be followed, and tillage shall be adapted to plant growth and other requirements.

Conservation Agriculture (CA) techniques shall be followed where appropriate, especially in the build-up of organic matter and conservation of soil humidity.

4.3

Seeds and other propagation materials

Seeds and other propagation materials shall be specified, and suppliers of seeds and other propagation materials shall provide all necessary information relating to the identity, quality and performance of their products, as well as their breeding history, where possible.

The propagation or planting materials shall be of the appropriate quality and be as free as possible from contamination and diseases in order to promote healthy plant growth. Planting material shall preferably be resistant or tolerant to biotic or abiotic factors.

Seeds and other propagation materials used for organic production shall be certified as being organically derived.

The quality of propagation material − including any genetically modified germplasm − shall comply with regional and/or national regulations and be appropriately labelled and documented,

as required.

Care shall be taken to exclude extraneous species, botanical varieties and strains of medicinal plants during the entire production process. Counterfeit, substandard and adulterated propagation materials must be avoided.

4.4

Care and Maintenance

The growth and development characteristics of individual medicinal plants, as well as the plant part destined for medicinal use, shall guide field management practices.
The timely application of measures such as topping, bud nipping, pruning and shading may be used to control the growth and development of the plant, thereby improving the quality and quantity of the medicinal plant material being produced

Any agrochemicals used to promote the growth of or to protect medicinal plants shall be kept to a minimum, and applied only when no alternative measures are available.

Integrated pest management shall be followed where appropriate. When necessary, only approved pesticides and herbicides shall be applied at the minimum effective level, in accordance with the labelling and/or package insert instructions of the individual product and the regulatory requirements that apply for the grower and the end-user countries.

Only qualified staff using approved equipment shall carry out pesticide and herbicide applications. All applications shall be documented.

The minimum interval between such treatments and harvest shall be consistent with the labelling and/or package insert instructions of the plant protection product, and such treatments shall be carried out in consultation and with the by agreement of the buyer of the medicinal plants or medicinal plant materials.

Growers and producers shall comply with maximum pesticide and herbicide residue limits, as stipulated by local, regional and/or national regulatory authorities of both the growers' and the end-users' countries and/or regions.

International agreements such as the International Plant Protection Convention5 and Codex Alimentarius shall also be consulted on pesticide use and residues.

4.5

Harvesting and on-farm storage

Medicinal plants shall be harvested during the optimal season or time period to ensure the production of medicinal plant materials and finished herbal products of the best possible quality. The time of harvest depends on the plant part to be used.

Detailed information concerning the appropriate timing of harvest is often available in national pharmacopoeias, published standards, official monographs and major reference books.

However, it is well known that the concentration of biologically active constituents varies with the stage of plant growth and development. This also applies to non-targeted toxic or poisonous indigenous plant ingredients.
The best time for harvest (quality peak season/time of day) shall be determined according to the quality and quantity of biologically active constituents rather than the total vegetative yield of the targeted medicinal plant parts.

During harvest, care shall be taken to ensure that no foreign matter, weeds or toxic plants are mixed with the harvested medicinal plant materials.

Medicinal plants shall be harvested under the best possible conditions, avoiding dew, rain or exceptionally high humidity. If harvesting occurs in wet conditions, the harvested material shall be transported immediately to an indoor drying facility to expedite drying so as to prevent any possible deleterious effects due to increased moisture levels,
which promote microbial fermentation and mould.

Cutting devices, harvesters, and other machines shall be kept clean and adjusted to reduce damage and contamination from soil and other materials. They shall be stored in an uncontaminated, dry place or facility free from insects, rodents, birds and other pests, and inaccessible to livestock and domestic animals.

Contact with soil shall be avoided to the extent possible so as to minimize the microbial load of harvested medicinal plant materials. Where necessary, large drop cloths, preferably made of clean muslin, may be used as an interface between the harvested plants and the soil.

If the underground parts (such as the roots) are used, any adhering soil shall be removed from the medicinal plant materials as soon as they are harvested.

The harvested raw medicinal plant materials shall be transported promptly in clean, dry conditions. They may be placed in clean baskets, dry sacks, trailers, hoppers or other well-aerated containers and carried to a central point for transport to the processing facility. All containers used at harvest shall be kept clean and free from contamination by previously harvested medicinal plants and other foreign matter.

If plastic containers are used, particular attention shall be paid to any possible retention of moisture that could lead to the growth of mould. When containers are not in use, they shall be kept in dry conditions, in an area that is protected from insects, rodents, birds and other pests, and inaccessible to livestock and domestic animals.

Any mechanical damage or compacting of the raw medicinal plant materials, as a consequence, for example, of overfilling or stacking of sacks or bags that may result in composting or otherwise diminish quality shall be avoided.

Decomposed medicinal plant materials shall be identified and discarded during harvest, post-harvest inspections and processing, in order to avoid microbial contamination and loss of product quality.

Herbal raw materials shall be harvested sustainably, where applicable, use of stem backs and roots be avoided and use of leaves and backs be encouraged.

5 SANITATION AND HYGIENE

5.1

All production of medicinal plant materials by agriculture and collection shall conform to national and/or regional regulations on safety, materials handling, sanitation and hygiene. All those involved in the handling and processing of cultivated or collected medicinal plants shall in all processing procedures comply with national and/or regional regulations on hygiene. All personnel shall be protected from contact with toxic or potentially allergenic herbs by means of adequate protective clothing, including gloves.

5.2

Health status

All personnel known, or suspected, to be suffering from or to be a carrier of a disease or illness likely to be transmitted through medicinal plant material, shall not be allowed to enter any harvest, production or processing area if there is a likelihood of their contaminating medicinal plant materials. Any persons suffering from diseases or symptoms of illness shall immediately report to the management. A medical examination of personnel shall be carried out if clinically or epidemiologically indicated.

5.3

Illness and injuries

All personnel with open wounds, inflammations or skin diseases shall be away from work or required to wear protective clothing and gloves until full recovery. Persons suffering from known airborne or food-borne communicable diseases, including dysentery and diarrhoea, shall be suspended from work in all areas of production and processing, in accordance with local and/or national regulations. Health conditions that shall be reported to the management for consideration regarding medical examination and/or possible exclusion from handling of medicinal plant materials include: jaundice, diarrhoea, vomiting, fever, sore throat with fever, visibly infected lesions (boils, cuts, etc.) and discharges from the ear, nose or eye. Any personnel who have cuts or wounds and are permitted to continue working shall cover their injuries with suitable waterproof dressings.

5.4

Personal cleanliness

Personnel who handle medicinal plant materials shall maintain a high degree of personal cleanliness, and, where appropriate, wear suitable protective clothing and gloves, including head covering and footwear.

Personnel shall always wash their hands at the start of handling activities, after using the toilet, and after handling medicinal plant materials or any contaminated material.

5.5

Personal behaviour

Smoking and eating shall not be permitted in medicinal plant processing areas. Personnel who handle medicinal plant materials shall refrain from behaviours that could result in contamination of the materials, for example, spitting, sneezing or coughing over unprotected materials. Personal effects such as jewellery, watches or other items shall not be worn or brought into areas where medicinal plant materials are handled if they pose a threat to the safety or quality of material

6 SELF – INSPECTION AND QUALITY AUDITS

Each farm is required to have a Quality Policy Statement that represents the policy and system against which the quality performance will be monitored and assessed.
The policy statement, associated procedures and practices shall be subject to regular audits, reviewed annually and amended in light of experience and new developments to ensure that the farm's quality performance is continually improved.
Compliance with quality assurance measures shall be verified; through regular auditing of cultivation or collection sites by experts or national regulatory authorities where applicable.

6.1

Self Inspection

1. Self inspection shall be conducted in order to monitor the implementation and compliance with Good Agricultural and Collection Practice principles and to propose necessary corrective measures.
2. Personnel matters, premises, equipment, documentation, collection, quality control of herbal medicinal plants, arrangements for dealing with complaints and recalls, and self inspection, shall be examined at intervals following a pre-arranged programme in order to verify their conformity with the principles of Quality Assurance.
3. Self inspection shall be conducted in an independent and detailed way by designated competent person(s) from the company and/or farm.
4. An audit report shall be prepared that contains all the observations made during the inspections and, where applicable, proposals for corrective measures. Statements on the actions subsequently taken shall also be recorded.

6.2

Items for self-inspection

Written instructions for self-inspection shall be established to provide a minimum and uniform standard of requirements. These may include questionnaires on GAP & GCP requirements covering at least the following items:
(a) personnel
(b) storage of collected plants
(c) cultivation and collection in-process controls
(d) equipment
(e) quality control
(f) documentation
(g) sanitation and hygiene
(h) validation and revalidation programmes
(i) complaints management
(j) labels control
(k) results of previous self-inspections and any corrective steps taken

6.3

Self-inspection team

Management shall appoint a self-inspection team consisting of experts in their respective fields and familiar with Good Agricultural Practice & Good Collection Practice. The members of the team may be appointed from inside or outside the company or farm.

6.4

Frequency of self-inspection

The frequency at which self-inspections are conducted may depend on farm or company requirements but shall preferably be at least once a year. The frequency shall be stated in the procedure.

6.5

Self-inspection report

A report shall be made at the completion of a self-inspection. The report shall include:

(a) self-inspection results

(b) evaluation and conclusions

(c) recommended corrective actions

6.6

Follow-up action

There shall be an effective follow-up programme. The farm/company management shall evaluate both the self-inspection report and the corrective actions as necessary.

6.7

Quality audit

It is useful to supplement self-inspections with a quality audit. A quality audit consists of an examination and assessment of all or part of a quality system with the specific purpose of improving it. A quality audit shall be conducted by external independent specialists and a team designated by the management for this purpose.

7 PERSONNEL

General

Experts shall be responsible for the supervision of workers and the full documentation of the work performed.

Personnel shall receive adequate education before performing tasks that require this knowledge and to know the best techniques for cultivation, harvesting, and conservation.

National and international regulations governing labour shall be respected in the employment of staff for all phases of medicinal plant materials cultivation and collection.

7.1

Hygiene and Sanitation

All personnel, involved in the propagation, cultivation and harvesting of medicinal plant shall maintain appropriate personal hygiene and shall have received training regarding their hygiene responsibilities.

Personnel who handle medicinal plant materials shall wear suitable protective clothing e.g. gloves, head covering and footwear.

Personnel shall always wash their hands at the start of handling activities, after using the toilet, and after handling medicinal plant materials or any contaminated material.

Specific persons shall be designated by the producer to be responsible for inspecting environmental sanitation and personnel hygiene.

All those involved in the handling and processing of cultivated or collected medicinal plants shall in all processing procedures comply with national and/or regional regulations on hygiene.

7.2

Health and welfare

Persons with open wounds, inflammations and skin-infections shall be suspended from the areas where the plant processing takes place, or have to wear appropriate protecting clothing or gloves, until their complete recuperation.

Personnel shall be protected from contact with toxic or potentially allergenic plant materials by means of adequate protective clothing.

The welfare of all staff involved in the growing and processing shall be ensured. Health regulations shall be displayed in the working area.

The collection team shall take measures to ensure the welfare and safety of staff and local communities during all stages of medicinal plant cultivation and collection.

A medical examination of personnel shall be carried out if clinically or epidemiologically indicated.

Health conditions that shall be reported to the management for consideration regarding medical examination and/or possible exclusion from handling of medicinal plant materials include: jaundice, diarrhoea, vomiting, fever, sore throat with fever, visibly infected lesions (boils, cuts, etc.) and discharges from the ear, nose or eye.

Only properly trained personnel, wearing appropriate protective clothing such as overalls, gloves, helmet, goggles, face mask, shall apply agrochemicals.

7.3
Personal behaviour
Smoking and eating shall not be permitted in medicinal plant cultivation and collection areas.

Personnel who handle medicinal plant materials shall refrain from behaviours that could result in contamination of the materials, for example, spitting, sneezing or coughing over unprotected materials.

Personal effects such as jewellery, watches or other items shall not be worn or brought into areas where medicinal plant materials are handled if they pose a threat to the safety or quality of the materials.

7.4
Visitors
Visitors to processing and handling areas shall wear appropriate protective clothing and adhere to all of the personal hygiene provisions mentioned above.

8 TRAINING

Local experts responsible for the field collection shall have formal or informal practical education and training in plant sciences and have practical experience in fieldwork.

Field personnel shall have adequate botanical training, and be able to recognize medicinal plants by their common names and, ideally, by their scientific (Latin) names.

Growers and producers shall have adequate knowledge of the medicinal plant concerned. This shall include botanical identification, cultivation characteristics and environmental requirements (soil type, soil pH, fertility, plant spacing and light requirements), as well as the means of harvest and storage.

All personnel, including field workers, involved in the propagation, cultivation, harvest and post-harvest processing stages of medicinal plant production shall receive training regarding their hygiene and safety responsibilities.

Growers and producers shall receive instruction on all issues relevant to the protection of the environment, conservation of medicinal plant species, and proper agricultural stewardship.

All personnel required to apply agrochemicals shall be trained in their use. Producers and collectors shall receive adequate training and possess sufficient knowledge about appropriate harvesting and techniques employed for plant maintenance and protection for the medicinal plants to be cultivated.

To avoid deterioration of harvested medicinal plant materials during the post-harvest handling and primary processing stages, proper training of all personnel involved is required.

Personnel shall be instructed on all relevant issues regarding environmental protection, the

conservation of plant species and proper soil management to conserve fields for cultivation and for soil erosion control.

Persons in charge of technological matters at production sites for medicinal material shall have received at least two years of higher education in pharmacy or agronomy, animal husbandry or other relevant fields, and shall have practical experience in the production of medicinal material.

Persons in charge of quality control departments shall be competent and have experience in the quality control of medicinal material.

Personnel working in the fields shall have good knowledge of cultivation techniques, particularly the use of pesticides and protection techniques.

Collectors shall have received adequate botanical training on areas like – identification of species and their produce, understanding of phenological stages of plant, broad internal e.g. heart wood and sap wood and external structures e.g. rhytidome along with some appreciation of natural processes like pollination, regeneration etc, which occur in nature.

The collection managers and collectors shall also be imparted adequate training on regulatory requirements for collection from specific sites and the procedures to fulfil such requirements

9 EQUIPMENTS, FARM IMPLEMENTS AND TOOLS

In the cultivation of medicinal plants, equipment, implements and tools are used. They shall include but not limited to:

Equipment; Tractors, combined harvesters and motor vehicles, choppers and shredders

Implements; “Pangas”/machetes, digging forks, hoe, shovels, spades, lakes, mattock and tarimbo.

Harvesting tools;: shears, secateurs’, pruner’s.

All these items shall be cleaned and disinfected after use. . to avoid cross-contamination and/or cross- adulteration.

Equipment and implements shall be made of material that is easy to clean and disinfect.

Farm equipment and implements shall be stored away from chemical; herbicides, pesticides, paints, e.t.c and biological contaminants.

Exposure of equipments and implements shall be protected from moisture and humidity to avoid rusting. Biological contaminants include exposure to microbial contaminants from sources such as animal waste.

Rusty farm implements and equipment shall not be used for harvesting purposes.

10 DOCUMENTATION

A written procedure shall be developed to detail the activities carried out in the farm. This shall include but not limited to preparation of land for planting; planting material,; water requirements; temperatures requirements during growing season; time of harvest; transport of the raw materials, storage.

There shall be a written procedure for receipt, identification, examination, handling, sampling, testing and approval/rejection of the raw materials.

There shall be written specifications for every medicinal plant that is grown.

There shall be a code of conduct that ensures that herbal plants of high quality shall be grown.

Any use of pesticides, herbicides and synthetic fertilizer shall be documented

Standard operating procedures shall be adopted and documented. All processes and procedures involved in the production of medicinal plant materials and the dates on which they are carried out shall be documented.
. The types of information that shall be documented include but not limited to;

- seeds and other propagation materials
- propagation technique
- cultivation or collection site
- crop rotation at the site
- cultivation method
- application of fertilizers, growth regulators, pesticides and herbicides where applicable
- unusual circumstances that may influence the quality including chemical composition of the medicinal plant materials e.g. extreme weather conditions, exposure to hazardous substances and other contaminants, or pest outbreaks
- harvest or collection processes

Multiple sets of good herbarium specimens shall be prepared and preserved for confirmation of plant identity and reference use. A photographic record including film, video, or digital images of the cultivation or collection site and the medicinal plants under cultivation or collection shall be made, whenever possible.

- All agreements between the grower or collector, processor and purchaser, and intellectual property and benefit-sharing agreements.
- Batch numbers shall unambiguously and clearly identify all batches from each cultivation area.
- The results of audits all

11 QUALITY CONTROL

A quality control department shall be set up by the farmer/company to oversee the supervisory management and quality control of the entire farming process. The principal functions of the quality control department are:

i. Environmental surveillance and hygiene control.

ii. Inspecting farming resources, packaging material for use of collected medicinal plants, and issuing inspection reports.

iii. Developing training programmes and supervising their implementation within the farm.

iv. Preparing and managing quality control documentation and reports, and managing all kinds of original records concerning farming, inspection, collection and packaging of the medicinal plants.

The quality control documentation and reports shall cover;

- Type of medicinal plant including variety.
- Source, grower's code or name.
- Quality and condition of the medicinal plant.
- Environmental protection e.g.
    - Reduction and/or prevention of soil erosion.
    - Minimize water usage and environmental pollution.
    - Responsible and minimum use of agrochemicals.
    - Protection of water sources and no deforestation of primary forests.
- Good agricultural and business practices' criteria such as
    - Compliance with maximum residue levels
    - Workers trained properly
    - Implementation of health and safety requirements, including accident and emergency procedures.
    - Implementation of hygiene rules and practices

Before collection and packaging, an inspection shall be made of each batch of medicinal material by the quality control department on the basis of national standards or standards reviewed and approved by the relevant authorities. The extent of the inspection shall at least include;

- The properties and identification of the medicinal material.
- Visual and sensory properties.
- Foreign matter.
- Moisture content.
- Ash content and content of ash insoluble in acids.
- Seepage, marker substances or content of active ingredients.
- Restrictions on the content of pesticide residue, heavy metals, microorganisms and microbial load shall be in line with national standards and relevant regulations.

Inspection reports shall be signed by personnel who carried out the inspection and persons in charge of the quality control department. Such inspection reports shall be placed on file for future reference. The retention period for the inspection reports shall be based on the organization's document retention policy or national and/or local regulatory requirements where applicable.

12 CONTRACT PRODUCTION PROTOCOL

Principle.

12.1
Contract production shall be correctly defined, agreed and controlled in order to avoid misunderstandings that could result in a product of unsatisfactory quality.

General

12.2
The contract shall permit the contract giver to audit the facilities of the contract accepter.

The contract giver

12.3
The contract giver is responsible for assessing the competence of the contract accepter in successfully carrying out the work required, for approval for contract activities, and for ensuring by means of the contract that the principles of Good Agricultural Practice described in this guide are followed.

12.4
The contract giver shall provide the contract accepter with all the information necessary to carry out the contracted operations correctly in accordance with the any other legal requirements. The contract giver shall ensure that the contract accepter is fully aware of any problems associated with the product that might pose a hazard to premises, equipment, personnel, other materials or other products. The contract giver shall ensure that all materials delivered by the contract accepter comply with their specifications or that the product has been released by the authorized person.

The contract accepter

12.5
The contract accepter shall have adequate premises, equipment, knowledge, and experience and competent personnel to carry out satisfactorily the work ordered by the contract giver.

12.6
The contract accepter shall not pass to a third party any of the work entrusted to him or her under the contract without the contract giver's prior evaluation and approval of the arrangements. Arrangements made between the contract accepter and any third party shall ensure that the processing information is made available in the same way as between the original contract giver and contract accepter.

12.7
The contract accepter shall refrain from any activity that may adversely affect the quality of the product processed for the contract giver.

The contract

12.8
There shall be a written document between the contract giver and the contract accepter which clearly establishes the responsibilities of each party and shall be signed by both parties.

12.9
The contract shall clearly state the way in which the authorized person, in releasing each batch of product for sale, exercises his or her full responsibility and ensures that each batch has been processed and checked for, compliance with the requirements of Good Agricultural Practice.

12.10
Technical aspects of the contract shall be drawn up by competent persons suitably knowledgeable in herbal medicine.
12.11
All arrangements for production shall be in accordance with the code of practice for herbal medicine and agreed by both parties. The contract shall describe clearly who is responsible for collection/harvesting, handling and releasing materials, including in-process controls

12.12
Collection/harvesting, processing distribution records and reference samples shall be kept by, or be available to, the contract giver. Any records relevant to assessing the quality of a product in the event of complaints or a suspected defect shall be accessible and specified in the defect/recall procedures of the contract giver. The contract shall describe the handling of starting, intermediate and bulk materials if they are rejected.
12.13
The contract shall conform to the Kenya Legal requirements.

13 COMPLAINTS

There shall be a written policy for handling complaints. The cultivator shall review all complaints received. Handling of clients complaints shall be a priority. Medicinal plants growers shall regularly seek feedback from the clients and strive to work on the suggestions made by them. They shall endeavour to maintain cordial relations with their clients in the long run.

13.1 Standards for Effective Complaints Management (Appendix A)

13.1.1

Designate a Location to Receive Complaints

Clients need to know where and how to file complaints or make inquiries.

- Select a place to receive complaints that is visible and accessible to clients.
- Publicize the complaint system to encourage clients to voice their dissatisfaction and to make the good intentions of the cultivator apparent.

13.1.2

Develop a System for Record-keeping

Prepare forms for recording, categorizing and filing complaint records. Design the system to perform functions such as the following:

- communicating complaint data to those in-charge;
- permitting swift identification and response when complaints need to be reported to others in-charge, or to law enforcement or regulatory agencies;
- providing market research through complaint trends; and
- enabling those in-charge to monitor the efficiency and effectiveness of the complaint management system.

13.1.3

Process and Record Complaints

- Log in the complaint and any relevant data.
- Categorize it for resolution and record-keeping. Categories must be clearly defined and exclusive of one another.
- Assign the complaint to one person for handling.
- Forward the complaint to another level of authority, if appropriate.

13.1.4

Acknowledge Complaint

Clients do not register complaints with only a casual interest in their disposition. Complaining involves some inconvenience and, possibly, expense. Loyal clients with strong feelings are often involved.

- Personalize the response.
- Talk to the client, if possible, by phone or in person.
- Use letters when necessary, but avoid impersonal form letters.
- Take extra time, if needed, to help clients with special needs, such as language barriers.

13.1.5

Investigate and Analyze the Complaint

- Be fair.
- Get both sides of the story.
- Keep records in the complaint file of all meetings, conversations or findings.

13.1.6

Resolve the Problem in a Manner Consistent with laid down procedure

- Forward the complaint to the appropriate level of authority for resolution.
- Keep the client informed through progress reports.
- Notify the client promptly of a proposed settlement.

13.1.7

Follow-Up

- Find out if the client is satisfied with the resolution. Was it carried out?
- Refer the complaint to a third-party dispute-resolution mechanism, if necessary.
- Cooperate with the third-party.

13.1.8

Prepare and File a Report on the Disposition of the Complaint, and Periodically Analyze and Summarize Complaints

- Circulate complaint statistics and action proposals to appropriate personnel.
- Develop an action plan for complaint prevention.
- Make sure the client viewpoint is given appropriate consideration in decision making.

APPENDIX A

Sample Record for Cultivated Medicinal Plants

Identification of cultivated medicinal plant

Scientific name (genus, species, author, family):_____
_____

Local name:
_____

English common name (if known): _____

Plant part for harvest: _____

Crop code number:
_____

Identification of cultivation site

Field location: _____

County/country:
_____

Identification of cultivator

Name of cultivator: _____

Contact address:
_____

Date (dd/mm/yyyy) cultivation begins: _____

Date (dd/mm/yyyy) cultivation ends: _____

Seeds and propagation materials

Source of the planted material:
_____

Physical description of the planted material:
_____

Commercially available (circle): yes / no

If yes, name of cultivator: _____ Name of supplier:
_____

Cultivation

Method of propagation materials establishment (circle): direct seed sowing / transplants

Date of first sowing/planting: _____ Percentage emergence: _____

Date of re-sowing/replanting: _____ Percentage stand establishment: _____

Distance between rows (cm): _____ Distance between plants (cm): _____

Size of planted area (msq): _____ Number of plants per unit area: _____

Crop rotation: _____

Type of soil: %Clay _____ %Sand _____ %Silt _____
% organic matter _____ %Others (describe) _____

Soil PH _____ Soil fertility (circle): good / poor
Soil moisture retention (circle0: good / poor Soil drainage (circle): good /poor
Irrigation (circle): yes/no Land (circle): even/sloping
Type of irrigation (circle): flood/farrow/sprinkler/drip
Source of water (circle): municipal piped supply/lake/river/well/other
If other, please specify: _____
Quality of water; good/bad
Description: _____
Salt content in water (circle): low/high
Name of adjacent plants:
_____
Insect on adjacent plants (circle0: aphids/scale/caterpillars/locust/other
If Other, please specify: _____

Organic fertilizers and pesticides
Fertilizer applied before planting (circle): organic (composted animal manure) /chemical
Name: _____ Method _____
Time/date 9d/m/y): _____ Rate _____
Herbicides applied before planting:
Name: _____ Method _____
Time/date (d/m/y): _____ Rate _____

Herbicides applied after planting
Name: _____ Method _____
Time/date9d/m/y): _____ Rate _____

Pesticides applied:
Name: _____ Method _____
Time/date (d/m/y): _____ Rate _____

Harvest
Date of harvest: _____ Time of day; _____
Conditions: _____ Method: _____
Yield: _____

Unusual circumstances that may influence quality
(extreme weather conditions, exposure to hazardous substances, pest outbreaks etc.):

Summary of Plant Growth conditions

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Duration of sunlight hour												
Average day temperature(C)												
Average night temperature (C)												
Average rainfall (mm)												
Plant height (cm)												
Plant diameter (cm)												
Flower buds												
Calyx formation												
Insect damage												
Diseases												
Organic Herbicide applied												
Pests												
Organic Pesticide applied												
Branching												
Tillage												
Irrigation												
Frost/chilling												
Wind												
Draught												
Yield per plant (part)												

Note:

- ✓ Mutation of weed…(Fidensio & Dr. Githae)
- ✓ Farmers need to monitor the potential impact on the environment.
- ✓ Complementary component of medicinal plants (symbiosis) ensures purity and efficacy contrary to monoculture
- ✓ Organically grown medicinal plant materials vs agro chemically(fertilizers) grown

medicinal plants (avoid chemical pesticides and fertilizers since it affects the composition of medicinal plants)